

EXPLAIN ANYTHING WITH EXPLAIN EVERYTHING

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Do you teach online? Do students email you questions about problems from class? Do you use PowerPoint slideshows in lectures? It is time that you explore an easy-to-use iPad app to write and narrate explanations and examples unique to your subject. You can project your work in a classroom or record it and email the video files to students directly or post them online.

Recent trends in the teaching of mathematics such as "inverted" classrooms, and the rise of online instruction have intensified the need for instructors to be able to communicate ideas and concepts to students electronically. Tablets, such as the iPad, provide instructors with powerful new tools to reach students in ways and locations not possible before.

There are a number of iPad applications (apps) currently available which act as recordable white boards. As with a standard white board, these apps provide a variety of pen colors and widths which allow instructors to write out examples of problems as they would in a traditional classroom and record what is drawn on the screen and what is said aloud, in real time. One powerful app, Explain Everything, creates video files that can be emailed directly to a student or posted to an online education platform (such as Blackboard Learn). This app includes a number of useful tools which allow you to insert typed text or shapes (like circles), use a variety of pointers, and move, rotate, or scale what you write on the screen. In addition to the default white background, you can insert photos, diagrams, graphs, PowerPoint slides or pdf files into the background and write on top of them.

Instructors can use the app to answer specific questions from students, providing students with clear, easy-to-follow visual and audible explanations that they can view multiple times. It can also be used to provide dynamic instruction in online courses, or to provide students additional support in traditional, lecture-based courses that they can access at any time, from any computer. Furthermore, the app can be incorporated directly into on-ground lectures. Instructors can project slideshows while easily annotating the slides. By scanning in a student's assignment and then recording the screen while grading/correcting the work, instructors can provide active feedback to students about their submitted work.

Images of the app are shown below along with a narrative that would enable instructors to easily navigate through this app. There are a variety of different color templates that

you can choose from to create and record your project. You can also import pictures and other pdf files and annotate on top of them. Multiple slides in PowerPoint will automatically be imported as multiple slides in the app. Once the project is created, it can be saved and exported to your other locations such as Dropbox or Evernote or sent through email.

Figure 1 indicates where the different tools are located. The **Project Creation Tools** include (from top to bottom) Finger tool, New Page tool, Pencil tool, Color tool, Shapes tool, Text tool, Add Objects tool, Erase/Delete tool, Pointer tool, Layering tool, Undo button, and Magnifying tool. Touching a tool once makes it active (usable). Touch and hold many tools in order to bring up submenus with different setting options from which to pick.

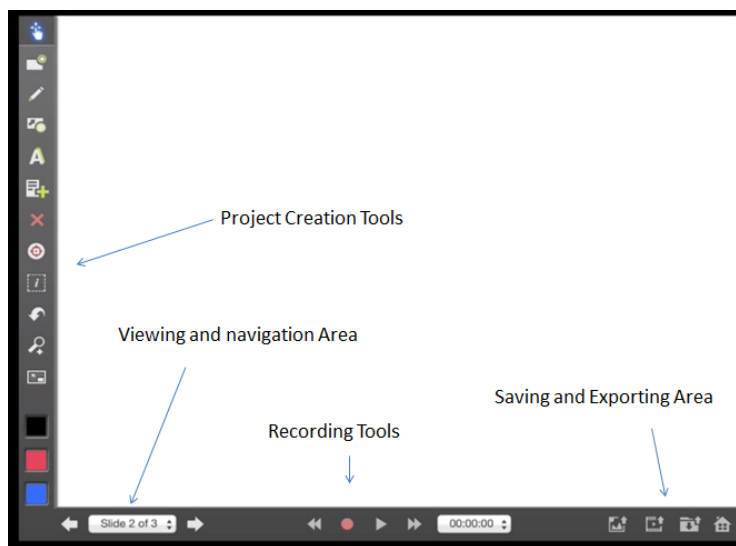


Figure 1 – Project Window and Basic Tools

- **Finger tool:** move objects around and resize them.
- **New Page tool:** adds and opens a new slide.
- **Pencil tool:** use to draw on the screen (submenu allows for different pen thicknesses). Click and hold on the colors at the bottom left to choose any color you would like to use, and then start writing on the screen. (Figure 2)
- **Shapes tool:** provides different preset shapes that can be inserted. Once you draw a shape, say an arrow, you can use the Finger tool to move it around and point at what you have written.
- **Text tool:** allows you to create a text box and type text in it. Click and hold on the text tool to select font and font size.



Figure 2 – Pencil/Pen Submenu

- **Add Objects** tool: adds objects such as pictures or videos to the project on the fly.
- **Erase/Delete** tool: allows you to erase part of what you have written on the screen (much like an eraser on a white board) or allows you to select large sections of writing to delete. It works both ways depending on what you choose to do.
- **Pointer** tool: allows you to point at items on the screen without adding additional pen marks. Pointer options include red laser dots and different arrows (accessed through the submenu).
- **Layering** tool: allows you to layer objects one on top of the other as per your choice.
- **Undo** button: Undoes the last action.
- **Magnifying** tool: allows you to zoom in and out and to pan the screen, so you can continue to write more on the same page. This process can be done multiple times, thus creating an illusion of an infinite amount of space.

The Viewing and Navigation Area allows you to view the different slides you created and rearrange them if needed. The arrows on both sides allow you to move to different slides. The red button at the bottom is the Record button. To stop a recording, you hit the pause sign. You use the tools in the **Saving and Exporting Area** to export your project as a video file or even just as an image which sends the last screen capture to the camera roll. You can send these images and videos to students (or yourself) via emails or post them in sites such as YouTube.

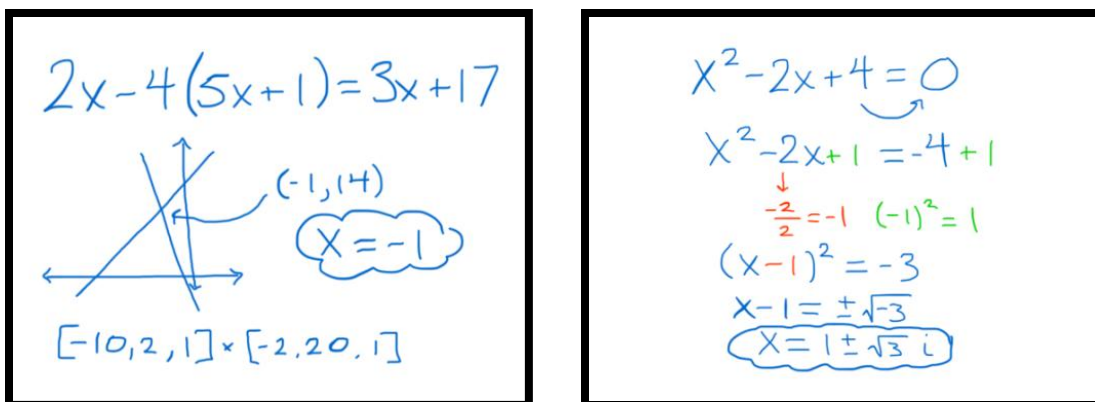


Figure 3 – Screen Images from Video Projects

This app has been used successfully at our school for the past year. It has been incorporated into many different courses, both developmental and college level. As a result of the popularity of the videos, we are in the process of creating a video channel on YouTube where we are posting these iPad videos in different subject area playlists to benefit our students and any other individuals who choose to view and learn. Thanks to funds from a Perkins grant, captioning is being added to the videos on the YouTube channel, making the videos accessible to a wider audience.